

MODIS Technical Team Meeting
Thursday, August 21, 2003
GSFC Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Bill Barnes, Ed Masuoka, Fred Patt, Skip Reber, Steve Kempner, Wayne Esaias, Michael King, Robert Wolfe, Eric Vermote, and Jack Xiong, with Yolanda Harvey taking the minutes.

1.0 Upcoming Meetings

- MODIS Oceans Data Use Workshop. September 4-5, 2003, Oregon State University.
- 10th International Symposium on Remote Sensing by The International Society for Optical Engineering (SPIE). September 8-12, 2003, Barcelona, Spain (abstracts deadline past) <http://www.spie.org/info/rs>
- MODIS Science Team Meeting, October 29-31, 2003, Baltimore-Washington International Airport (BWI) Marriott
- 2003 Fall AGU Meeting. December 8-12, San Francisco, California, USA. Abstracts due August 28 (postal and express mail), September 4 14:00 UT (electronic submission).
<http://www.agu.org/meetings/fm03/>

2.0 Meeting Minutes

2.1 General Discussion

Salomonson noted that there is to be a special session at the Fall AGU meeting dealing with early results from the Aqua mission. Papers are to be presented principally in poster format; solicitation for posters and oral sessions are ongoing.

2.2 Instrument Status

Salomonson reported that the thermal emission data drops are a direct broadcast (DB) issue. Xiong replied that MCST looked this case and found no problem in the data (both the L1A and L1B data from the GESDAAC). The L1B data from the DB are missing, but their L1A data are okay. They (the DB people) have also noted that a lot of data are dropped when the Aqua instrument passes over the Southern Anomaly, so they're checking all of the data for those instances. Again, MCST looked data from DAAC and no problem was found.

Salomonson noted that before the instrument crosses the Canadian border, the Aqua DB of MODIS data shuts off (somewhere over mid-Montana). This is a disappointment for the U.S. Forest Service who is fighting a number of fires in northern Montana and Idaho; a large number of personnel are involved and the MODIS observations are very important to them. He reported that he's called Ed Chang and Bill Guit to see if some adjustment could be made in the tradeoff between the DB operation and the downloading data on the SSR at Poker Flats. They are looking into it and will do the best they can to accommodate the Forest Service.

Salomonson noted that he saw Gene Feldman's prototype of an SST product. Patt noted that the prototype is simply an activity to prepare for NPP VIIRS. Barnes noted that

starting August 1, 2003, all data will include SST. Salomonson asked if this prototype product will match MODIS' SST product, and Patt said that he believed that MODIS' SST product is what Feldman's prototype SST product was built on.

Xiong reported that MCST has two review meetings coming up. One will be with SeaWiFS, who would like to do a review of the MODIS RSB algorithm; the meeting will probably happen around September 3rd, 2003. The second meeting will be an Oceans Aqua calibration review on September 15 and 16; the emphasis at this meeting will be on ocean color and RSB calibration. There could also be a third meeting with SeaWiFS on other topics, but it hasn't yet been set up, though he expects it to be held at the Aerospace Building in Lanham, MD.

Barnes reported that Jim Cane called him about the support contract; Cane will send the paperwork, and Barnes will work with Xiong on it. There is a piece of hardware previously used by Roger Drake; they're trying to work out the paperwork in order to allow SBRS to transfer it to a difference project.

Xiong reported that there are no new problems with the instruments.

2.2.1 Terra MODIS

Xiong reported that the Terra MODIS instrument is still being calibrated every orbit because of the screen door being kept in the open position.

2.2.2 Aqua MODIS

Xiong reported that he had a discussion with Wolfe on the MOD03 (Geolocation Software) update; when the instrument-to-spacecraft alignment angles are changed, they will leave the Solar Diffuser (SD) angle untouched for M1 calibration. In Aqua, the current software causes a jump (0.5 percent) in the M1 calibration because it changes the instrument's alignment as well as the SD alignment. Xiong said that Wolfe indicated that this would be a big problem for the Geolocation group. Esaias ask if this change will affect looking at the Moon through the space-view, and Xiong said no, because no SD parameters are used in the lunar trending study. The space view lunar analysis doesn't use the cosine theta parameter.

The Aqua band-to-band (B2B) registration issue is still being discussed; a meeting is being organized to go over the issue. The algorithm is likely to change, affecting mostly thermal 1-km pixels. Barnes said that this change will have to be reviewed by the Science Team to determine the impact. King suggested that those that use only one focal plane might suffer, but those who use multiple focal planes would probably benefit from the change. Barnes said that the change will include resampling, which will change the radiometry for all bands that require it. King suggested that there ought to be a benchmark. Barnes said that those who use bands one, two, and three will have to review the change, since they will be the ones most affected. Xiong said that on Aqua, it will be the SWIR/MWIR and LWIR bands that will be affected and which will need a visible benchmark. There will be a radiance change that people should definitely be made aware of. Barnes reiterated that this ought to be a topic for the Science Team to discuss.

Wolfe reported that they're still working out their approach for handling the Aqua band-to-band misregistration. They will be testing up to four different approaches to fixing the problem, including selective resampling of just the bands that are used by science algorithms that cross the warm and cold focal planes. They will look at the downstream impact for science algorithms that use bands from both the warm and cold focal planes as well as algorithms that are just use data from the cold (misaligned) focal planes. Salomonson asked if there should be a session on this topic at the Science Team Meeting, and Wolfe said that he could present the results from the tests. He suggested that the team consider making any changes at all in time for the Aqua reprocessing. His main concern is that the schedule is tight, so any delay would delay the start of the Aqua MODIS data reprocessing. Masuoka noted that this issue is a driving issue; if we don't follow the schedule, we can't start reprocessing Aqua MODIS data on January 1, 2004.

Xiong reported that at the SPIE meeting, he had a discussion with Chris Mueller about applying a de-stripping algorithm in the L1B. He and Chris have mentioned this to Bill Barnes at the SPIE meeting. This approach will change L1B radiometry. The thermal Band 26 has been affected for a while now, but a new change would affect all the thermal bands. Paul Menzel's group at Wisconsin developed the change. Xiong has asked Chris Mueller to do a case study and present the results, possibly at October science team meeting. Esaias said that he got an email stating that the change wouldn't help Bands 31, 32, 22, and 23, and contributes to strange results.

2.3 DAAC

Kempler reported that for the most part, everything is working well, and the DAAC had an overall x-rate of 4 during August. The DAAC will be down on the weekend of August 23rd for data tape upgrades; they will still be able to take orders, but they won't be able to fill them.

Kempler reported that he attended a meeting about distribution; they have about 16 days of backlogged orders, and though they are working as fast as they can on filling them, they are staying consistently at that level. They are still open to MODAPS sending the QA data to Miami, which would help a lot, at least until reprocessing starts up. When they start reprocessing, he expects that subscriptions would significantly increase the distribution levels. He attended a meeting this morning (August 21st) on this topic with ESDIS and asked for a long-term plan that would provide satisfactory distribution, as well as a short-term plan to address the immediate backlog problem. Masuoka said that they need to do a test with Miami (for sending the QA data) and SeaWiFS, which is why the QA data haven't been switched over yet from the DAAC. Mike Teague still needs to hear from Bob Evans, then to set up some tests with Miami. As for Gene Feldman (SeaWiFS), that will take some time to work out since Feldman would like to get his data feed through the SCInet, so MODAPS will have to get the IPNOC to route the feed to Feldman via SCInet rather than the CNE.

Kempler concluded that subscriptions, revisions, and new users will not allow much of a reprieve, so the team is going to have to take a bigger look at the issue. Reber asked if all of the QA distribution will be moved off of the DAACs, and Masuoka said no. However, shipping the Level 1A subset to Miami from MODAPS will reduce the Q/A volume shipped by the GES DAAC from 17 to 10 percent, which is within the baseline. This would be how we distributed from MODAPS, if the tests showed that it was feasible.

Reber asked if the MODIS Science Team members are using the QA data they receive from the DAAC, and Salomonson replied that everyone who is receiving the data is using it, so the level of QA distribution probably won't drop off.

Kemper said that 25 percent of the total distribution is going to other DAACs for other instrument team's processing (MISR, MOPITT, CERES, etc.), which has an impact on what can be sent to the public. The Goddard DAAC is not sending some data twice, however more efficient use of data distribution to instruments teams could be a SWGD (Science Working Group on Data) issue. Wolfe said that he has tried to initiate discussion on this with the other instrument teams, but hasn't gotten much response. Reber said that perhaps if people on the other instrument teams understood that they are affecting the data distribution rate, they could do something to help. Wolfe agreed, and said that he would continue to discuss the issue with them. Kempler said that he would try to come up with some ideas as well. Wolfe said that we really need to work these issues out. Reber suggested bringing the issues up at a Terra teleconference, and Salomonson agreed. Kempler said that he would email his thoughts to Reber.

2.4 MODAPS

Masuoka reported on the archiving issue. He said that many people are aware that the MODIS Land products will be reviewed in September at NASA HQ. One key part of the review will be to look at what products are being archived at the LP DAAC and how the volume being archived might be reduced. ESDIS has asked MODIS what we would like the Project to do with regard to archiving products from prior collections. He said that he is drafting an email stating that the Atmospheres group wants to store the L3 products, Land wants to store the CMGs, and Oceans wants to store a selected set of L3 ocean color and SST parameters. The disciplines won't need a 6-month rolling buffer of the previous collection. Once he gets the opinions of all the disciplines, he will send the email out as MODIS' official position on the issue. Masuoka said that he would like to close this issue before the review so that ESDIS can begin working on implementing the solution.

Masuoka reported that the Atmosphere Collection 4 reprocessing will finish in mid-September. Land Collection 4 reprocessing will finish late September to mid-October, depending on x-rates. If the Oceans radcor file is submitted August 25th, 2003, to SDST and the temporal test is successful, the Ocean reprocessing will finish by late December. Salomonson said that now is the time for Land and Atmosphere to start thinking about an Aqua data reprocessing effort. King suggested that it start in January, and Salomonson said that Oceans will likely start later, probably in March. Masuoka said that the pacing items on the Aqua reprocessing are the B2B changes to L1B, which will be completed in time for a January start, and the Solar Diffuser corrections in L1B needed by Oceans, which will not be ready in time for the January start.

2.5 Oceans

Esaias reported that he's looking at the initial results on the radcors, and the complete set will be available August 22nd. They can then be shipped on the 25th. Masuoka said that if they pass inspection by the Oceans people, then they can start the temporal test on the 28th.

3.0 Action Items

3.1 New Action Items

None.

3.2 Old Action Items

3.2.1 Kempler to coordinate with Oceans group on creating documentation for the DAAC on the new Oceans L1A data subsets.

Status: Closed.

3.2.2 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.

Status: Open.

3.2.3 PIP to develop list of items to go into work plan for the new contract (EMD).

Status: Open.

3.2.4 Ed Masuoka to invite a NOAA delegate to the weekly MODIS Tech Team meetings or the PIP meetings.

Status: Open. Masuoka sent the invitation.

3.2.5 Xiong to email details of Aqua lunar calibration maneuver proposal to Salomonson and Harvey.

Status: Closed.

3.2.6 Kempler to bring back some proposals for how the disciplines can deal with the DAAC distribution problem.

Status: Open.